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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,513	09/23/2003	Peter C. McEachen	LTTK.P0107US	4326

7590 02/09/2007
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EXAMINER

LAO, LUN S

ART UNIT	PAPER NUMBER
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2615

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/669,513

Applicant(s)

MCEACHEN ET AL.

Examiner

Lun-See Lao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 06-28-2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. This action is in response to the APPLICATION filed on 09-23-2003. Claims 1-26 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, 7-17 and 23-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Shennib (US PAT. 7,016,504).

Consider claim 1 Shennib teaches that an audio device (see fig.5) having a primary audio purpose of producing a programmed audio output for a listener (see fig.1), said device comprising:

sound-generating components (see fig.5, (4)) that generate the programmed audio output and include an emitter that audibly emits the programmed output (50) at a playing volume; a proximity sensor (12) that senses a distance between it and the listener, this sensed distance corresponding to a distance between the listener and the emitter; and

volume-adjusting components (42) which adjust the playing volume to prevent it from being at an unacceptable level at the sensed distance (see col. 6 line 20-col. 7 line 38 and col. 12 line 15-20).

Consider claims 2-4, Shennib teaches that the audio device of the playing volume remains in its adjusted condition until a reset is performed (such as one volume changes to another volume and see col. 6 line 20-54); and an audio device of the volume- adjusting components (see fig.5 (42)) are configured to provide a delay (by automatically delayed) between performance of the reset and initiation of the reset (see col. 6 line 54-col. 7 line 38); and the volume- adjusting components (see fig.5 (42)) are configured to reduce the playing volume if the listener is within a certain range and if the playing volume is at an unacceptable level for this range (see col. 6 line 20-col. 7 line 38 and col. 12 line 15-20).

Consider claims 7-9 Shennib teaches that an audio device of the reduction of volume is accomplished by reducing the playing volume to a level greater than zero (see fig. 5 and see col. 6 line 20-col. 7 line 38); and the reduced playing volume is equal to or less than a threshold (see fig. 5 and see col. 6 line 20-col. 7 line 38 and col. 9 line 7-67); and the threshold corresponds to a pre-established safe volume level for said certain range (see col. 7 lines 15-38, col. 9 line 7-67).

Consider claims 10-13 Shennib teaches that the audio device of the volume-adjusting components (see fig.5 (42)) are configured to increase the playing volume if the listener is outside a certain range and if the playing volume is unacceptably low for this range (see col. 7 lines 15-38, col. 9 line 7-67); and the sound- generating

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components (see fig.5 (11)) comprise a volume setter (42) for setting a desired level for the playing volume and wherein the volume-adjusting components override the volume setter(see col. 7 lines 15-38, col. 9 line 7-67); and the volume- adjusting components (see fig.5 (42)) are configured to reduce the playing volume if the listener is within a certain range of the emitter and if the set playing volume is at an unacceptable level for this range, and wherein the playing volume returns to the set volume upon the listener moving outside the certain range (see col. 7 lines 15-38, col. 9 line 7-67 and col. 12 line10-20); and the volume- adjusting components (see fig.5 (42)) adjust the playing volume to different levels when the listener is at different distances from the sound generator(11 and see col. 7 lines 15-38, col. 9 line 7-67).

Consider claims 14-17 Shennib teaches that there is a threshold A for a predetermined range A (see fig.5 (30)), and wherein, when the sensed distance is less than or equal to range A, the volume-adjusting components (42) adjust the playing volume if necessary based upon a comparison with the threshold A (see col. 7 lines 15-38, col. 9 line 7-67); and the volume- adjusting components (see figs. 5(42)) reduce the playing volume when the playing volume exceeds the threshold A (see col. 7 lines 15-38, col. 9 line 7-67 and col. 12 line10-20); the volume- adjusting components (see fig.5 (42)) increase the playing volume when the playing volume is less than the threshold A (see col. 7 lines 15-38, col. 9 line 7-67 and col. 12 line10-20).

Consider claims 23-26 Shennib teaches that the audio device of the volume-adjusting components (see fig.5 (42)) determine an unacceptable volume level for the distance sensed by the proximity sensor (12) and then adjust the playing volume based

upon the sensed distance (see col. 7 15-38, col. 9 line 7-67 and col. 12 line10-20); and the unacceptable volume level occurs when the playing volume exceeds an acceptable volume threshold for a sensed distance and the volume adjustment comprises decreasing the playing volume (see col. 7 lines 15-38, col. 9 line 7-67 and col. 12 line10-20); and the data used to determine the acceptable volume threshold for a sensed distance is provided by previous testing to establish safe decibel levels (see col. 7 15-38, col. 9 line 7-67 and col. 12 line10-20); and the unacceptable volume level occurs when the playing volume is less than an acceptable volume threshold for a sensed distance and the volume adjustment comprises increasing the playing volume (see figs. 1 and 5 and see col. 7 lines 15-38, col. 9 line 7-67 and col. 12 line10-20).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5-6 and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shennib (US PAT. 7,016,504).

Consider claims 5-6 Shennib teaches that an audio device of the volume-adjusting components (see fig.5 (42)) are configured to reduce the playing volume to a range if the listener is within said certain range and if the playing volume is at an

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unacceptable level for this range (see col. 7 lines 15-38, col. 9 line 7-67 and col. 12 line 10-20); and the reduction of volume to a range is accomplished by interrupting power to at least some of the sound generating components (see fig. 5 (11) and see col. 7 lines 15-38, col. 9 line 7-67 and col. 12 line 10-20); but Shennib does not explicitly teach that the playing volume reduces to zero.

However, official notice is taken that it is common that the control signal generating circuit generating the automatic gain control signal (such as, a microcontroller, 30) can be controlled in a manner so as to gracefully set the gain (such as a programmable volume control, 42) of the loudspeaker to zero.

Therefore, it would have been obvious the audio device as taught by Shennib could have been used to the playing volume reduce to zero for saving the energy and protecting the circuit, when the playing volume is at an unacceptable level.

Consider claims 18-19 Shennib does not explicitly teach the audio device that there is a threshold B for a range B greater than the range A, and wherein, when the sensed distance is greater than range A but less than or equal to range B, the volume-adjusting components adjust the playing volume based upon a comparison with the threshold B; and the sensed distance is less than or equal to range A, the volume-adjusting components reduce the playing volume when the playing volume exceeds the threshold A; and when the sensed distance is greater than range A and less than or equal to range B, the volume-adjusting components reduce the playing volume when the playing volume exceeds the threshold B.

However, Shennib teaches a programmable volume control (see fig.5, 42) to adjust the playing volume to different levels when the listener is at different distance base on a comparison with the threshold (see figs 1 and 5 and see col. 7 lines 15-38, col. 9 line 7-67 and col. 12 line10-20). Since Shennib does not limit what kind of threshold and range have to be, therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Shennib by implementing a particular arrangement (such as threshold A, B and range A, B) as claimed based on designer's preference and needs for the purpose of acquiring the desired audio sound quality of the output signal to the listener at various distance in the acoustical environment.

Consider claims 20-21 Shennib does not explicitly teach the audio device that the sensed distance is less than or equal to range A, the volume- adjusting components increase the playing volume when the playing volume is less than or equal to the threshold A; and when the sensed distance is greater than range A and less than or equal to range B, the volume-adjusting components increase the playing volume when the playing volume is less than or equal to the threshold A; and the sensed distance is less than or equal to range A, the volume- adjusting components reduce the playing volume when it exceeds the threshold A and increase the playing volume when it is less than or equal to the threshold A; when the sensed distance is greater than range A and less than or equal to range B, the volume-adjusting components reduce the playing volume when the playing volume exceeds the threshold B and increase the playing volume when it is less than or equal to threshold.

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However, Shennib teaches a programmable volume control (see fig.5, 42) to adjust the playing volume to different levels when the listener is at different distance base on a comparison with the threshold and sensing the distance (see figs 1, 5 and see col. 7 lines 15-38, col. 9 line 7-67 and col. 12 line10-20). Since Shennib does not limit what kind of threshold and range have to be, therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Shennib by implementing a particular arrangement (such as, threshold A, B and range A, B) as claimed based on designer's preference and needs for the purpose of acquiring the desired audio sound quality of the output signal to the listener at various distance in the acoustical environment.

Consider claim 22 Shennib does not explicitly teach an audio device that there is a predetermined acceptable volume threshold C for a predetermined range C greater than the range B, and wherein, when the sensed distance is greater than range B but less than or equal to range C, the volume-adjusting components adjust the playing volume based on the threshold C.

However, Shennib teaches a programmable volume control (see fig.5, 42) to adjust the playing volume to different levels when the listener is at different distance base on a comparison with the threshold and sensing the distance (see figs 1, 5 and see col. 7 lines 15-38, col. 9 line 7-67 and col. 12 line10-20). Since Shennib does not limit what kind of threshold and range have to be, therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Shennib by implementing a particular arrangement (such as, threshold A, B,C and

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range A, B,C) as claimed based on designer's preference and needs for the purpose of acquiring the desired audio sound quality of the output signal to the listener at various distance in the acoustical environment.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gordon (US PAT. 5,884,156) is cited to show other related AUDIO DEVICE.

7. Any response to this action should be mailed to:

Mail Stop ____ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:
(571) 273-8300

Hand-delivered responses should be brought to:
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao,Lun-See L.S.
Patent Examiner
US Patent and Trademark Office

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Knox

571-272-7501

Date 01-31-2007



VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600